Manitoba

Annual Report 1991 - 92

Energy and Mines

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Manitoba

Annual Report 1991 - 92

Energy and Mines

Includes 10% post-consumer waste

Deputy Premier
Minister of
Energy and Mines

Minister Responsible for Manitoba Hydro

Room 333
Legislative Building
Winnipeg, Manitoba, CANADA
R3C 0V8

The Honourable George Johnson
Lieutenant Governor of the Province of Manitoba

May it please your Honour:

I have the honour of presenting to you the Annual Report of the Department of Energy and Mines for the fiscal year ending March 31, 1992.

This report records the activities of the operating and support service divisions of the Department during the year.

Respectfully,

James E. Downey
Minister

Manitoba

Deputy Minister of
Energy and Mines

Room 143
Legislative Building
Winnipeg, Manitoba, CANADA
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The Honourable James E. Downey
Minister of Energy and Mines

Dear Sir:

I have the honour of presenting to you the Annual Report of the Department of Energy and Mines for the fiscal year ending March 31, 1992.

This was a year of significant achievement for the Department, reflecting much progress in our continuing efforts to redirect our activities and focus on the primary mission of the department - to foster and promote economic development in the province based on Manitoba's mineral wealth and hydro electric energy, and in particular to contribute to renewed vigour of the province's mining industry. Among the noteworthy accomplishments were:

- a new Mines and Minerals Act, proclaimed on April 1st, 1992. The new Act is designed to provide a clear framework for guiding mineral exploration and development in the province and is also the first resource legislation in Canada to incorporate the principles of sustainable development;
- major initiatives in establishing an attractive investment climate and incentives for mineral exploration in Manitoba through the development of amendments to the Mining Tax Act, establishment of a new Mineral Exploration Incentive Program and development of proposals for a new Prospectors Assistance Plan;
- signing of a new $10 million Federal-Provincial Partnership Agreement on Mineral Development on June 28th, 1991 and the introduction of programs under this Agreement in direct support of the mineral industry;
- establishment of a Marketing Branch through internal reorganization, to actively promote economic development opportunities for Manitoba's mineral resources.

On the energy side, preparation of a new Energy Act and an Oil and Gas Act, the latter a companion bill to the Mines and Minerals Act, were well advanced. Both pieces of legislation will incorporate policies set out in the Sustainable Development Energy Strategy released in the fall of 1990.

These and many other accomplishments were achieved at a time when staffing and expenditure levels were undergoing significant downsizing. I would like to thank all employees for their extra efforts and dedication in providing the best possible service to our clients during these difficult economic times. A measure of this extra effort was demonstrated when our Annual Report for the year ending March 31st, 1991 was tabled in the Legislative Assembly on June 27, 1991 less than three months after year end. We plan to continue such improvements in efficiency in succeeding years.

Respectfully submitted,

Ian Haugh
Deputy Minister

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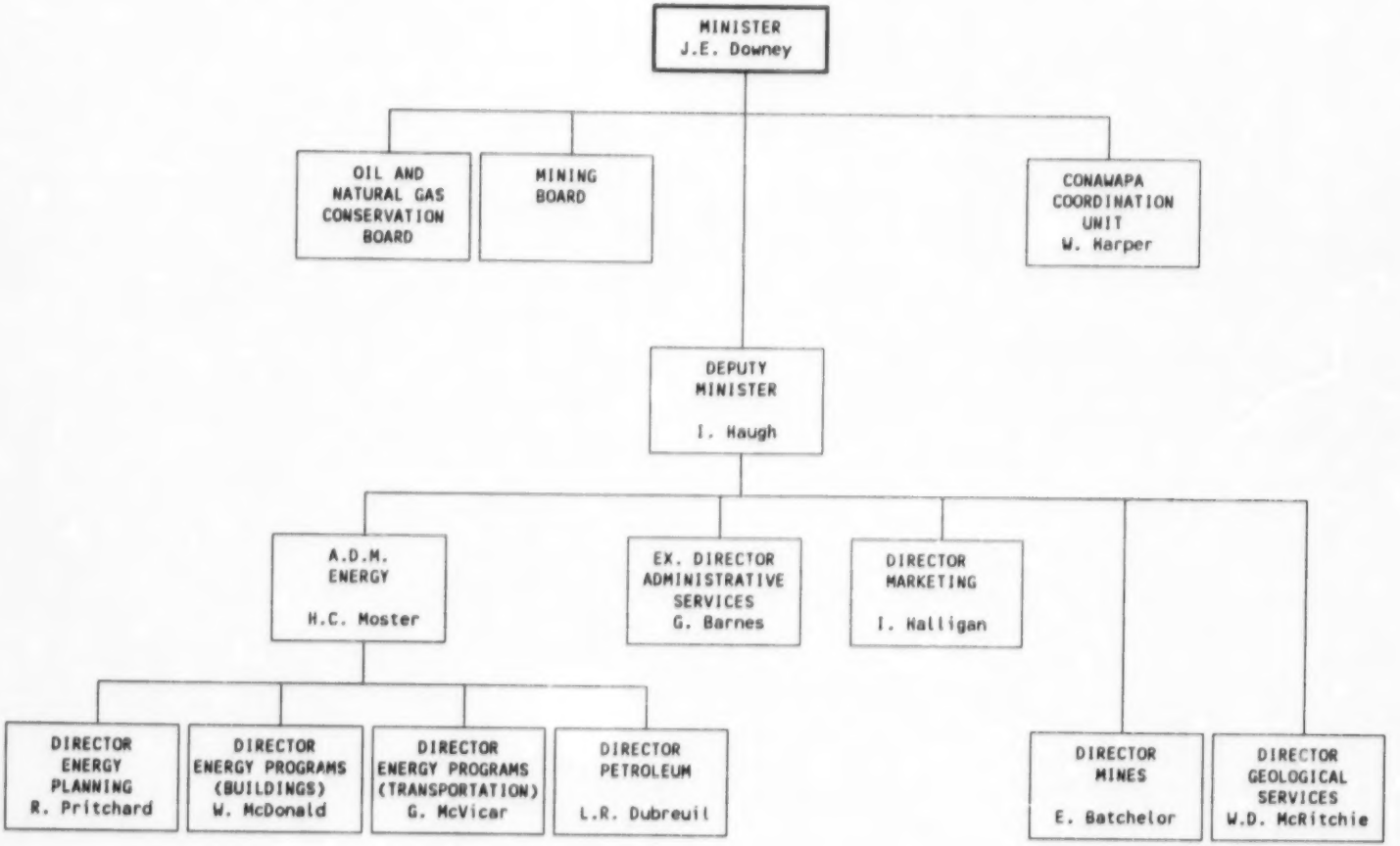
Organization Chart - Manitoba Energy and Mines

MANITOBA ENERGY AND MINES DEPARTMENTAL OVERVIEW
as at March 31, 1992



Department of Energy and Mines

Introduction

Report Structure

This Annual Report sets out the objectives and achievements of each of the Department's branches in the same sequence as in the department's appropriation structure in the Main Estimates of Expenditure for the Province. Details of the department's financial performance, together with a five year historical table of departmental expenditures and staffing levels, are provided in the Financial Information section; it also contains explanations of expenditure and revenue variances. Due to the early printing of the Annual Report, some of the 1991/92 Expenditure and Revenue figures may not be final. Appendix A provides a list of reports and maps produced by the department during the year, and Appendix B gives a convenient listing of departmental staff and telephone numbers.

The department produces other reports that provide narrative and statistical information regarding the performance of Manitoba's mining and petroleum industries. Copies of these reports and other publications can be obtained by contacting the Marketing Branch at (204) 945-4154.

Role and Mission

The primary mission of the Department of Energy and Mines is to foster and promote environmentally sustainable economic development in the province based on Manitoba's energy and mineral resources.

To achieve our mission, we have established the following goals:

- to provide for, encourage, promote and facilitate the exploration, development and production of mineral and petroleum resources in Manitoba in order to achieve real growth in the value, and diversity of minerals produced;
- to provide for the formulation and execution of energy policies designed to ensure adequate and affordable supplies of energy in the province;
- to promote the efficient use and conservation of energy and encourage the use of alternate fuels and transportation modes in order to protect the environment and reduce the dependency on imported energy resources;
- to ensure that all Department programs are delivered efficiently, and in a manner that reflects all employees' efforts to achieve constant improvement in the quality of service afforded to our clients both within and outside government; and
- to promote the pursuit of professional and technical excellence among our employees.

Overview

Manitoba is endowed with substantial mineral and energy resources, and the development and use of these resources underpins a large portion of the provincial economy.

The Department of Energy and Mines has legislative and policy responsibilities to ensure that Manitoba's energy and mineral resources are developed and managed in a manner that is beneficial to all residents of the province today and in the future.

The Department was formed November 15, 1979, when the Mineral Resources Division of the then Department of Mines, Natural Resources and Environment was combined with the Manitoba Energy Council, then attached to the Department of Finance.

During the period covered by this report - April 1, 1991 to March 31, 1992, the Department comprised three operating divisions:

- Administration and Finance
- Energy
- Mineral Resources

Statutory Responsibilities

The Minister of Energy and Mines is responsible for the following statutes.

	Continuing Consolidation Chapter
The Manitoba Energy Authority Act	E112
The Manitoba Energy Council Act	E113
The Gas Pipe Line Act	G50
The Gas Storage and Allocation Act	G52
The Greater Winnipeg Gas Distribution Act (SM 1988, c. 40)	
The Homeowners Tax and Insulation Assistance Act (Part V together with Section 1 and Part VI as they relate to subjects covered under Part V)	H75
The Mineral Exploration Incentive Program Act	M145
The Mines Act (Parts II and III)	M160
The Mines and Minerals Act	M162
The Mining and Metallurgy Compensation Act	M190
The Natural Gas Supply Act	N15
The Manitoba Natural Resources Development Act (as it applies to Manitoba Mineral Resources Ltd.)	N33
The Oil and Gas Production Tax Act	O37
The Pipe Line Act	P70

The Minister of Energy and Mines, is also responsible for the following Crown corporations and boards.

Manitoba Hydro
Manitoba Mineral Resources Ltd.
The Mining Board
The Oil and Natural Gas Conservation Board

Manitoba Hydro and Manitoba Mineral Resources Ltd., produce their own annual reports.

ADMINISTRATION AND FINANCE

Administration and Finance comprises the Executive Branch, the Administrative Services Division, and the Marketing Branch.

Executive Branch

The Executive Branch includes the Offices of the Minister and Deputy Minister of Energy and Mines. This Branch provides for the overall planning and policy direction of the department and coordinates departmental activities. The Branch also provides administrative support for the Offices of the Minister and Deputy Minister.

Expenditures by Sub-Appropriation

23-1A & 1B Executive Branch	Actual 1991/92 $	Estimate 1991/92 SY	Estimate 1991/92 $	Variance Over(Under)
Total Salaries	267,700	8.00	320,700	(53,000)
Total Other Expenditures	92,300		77,900	14,400
Total Expenditures	360,000	8.00	398,600	(38,600)

Administrative Services Division

Administrative Services provides a comprehensive range of support services to the entire department. These include financial and accounting services, personnel management, computer systems support, and administrative policy development. In providing these specialized services, Administrative Services Division helps the other branches of the department to fulfil their program goals.

In the latter part of the year, the Division embarked on a Service Quality initiative aimed at improving the quality of services provided to management and staff at Energy and Mines. All programs and services provided by Administrative Services will be reviewed with our clients in 1992/93 and a plan developed to further improve service quality and efficiency.

Financial Services

The Financial Services Section provides financial, accounting, budgetary, and operational support services to the department. Principal among these are:

- financial planning and coordination of the departmental annual revenue and expenditure estimates;
- financial advice to program managers;
- financial reporting and expenditure control;
- voucher processing and disbursement;
- revenue accounting;
- administration of loan agreements and programs;
- coordination of requests for departmental goods and services including office accommodation and equipment; and
- coordination of departmental vehicle usage and maintenance and administration of the parking program.

The Financial Services Section is committed to the departmental goal of constantly improving its service to its various client groups and will continue to pursue that goal through improved quality of service offered to branches in the department. In particular we will undertake a review of the commitment and financial reporting system in the department with a view to improving the efficiency of the system.

Personnel Services

The Personnel Services Section provides human resource management services to the department, including:

- human resource planning and management (including job evaluation, recruitment and selection, training and development, performance management, and employee relations);
- payroll and benefits administration; and
- coordination of affirmative action, French language services, and workplace safety and health.

In 1991/92, the Personnel Services Section recruited staff to 38 positions (excluding casual and summer student positions). The Section also played a lead role in handling work force adjustments resulting from staffing reductions and ensured affected employees were given priority consideration in all staffing actions undertaken by the department.

Twenty-five formal position reviews were completed. We also began a review of those classification series unique to the department as the first step towards delegated classification authority.

The Section continued the application of Affirmative Action policies. Affirmative Action target group representation remained fairly constant in the female and visible minority categories; there was a slight increase in Native representation; and a slight decrease in the disabled category. The departmental Affirmative Action Committee undertook an employee awareness survey and the results are now being used to develop a communication and education strategy. Managers and supervisors attended Affirmative Action informational sessions and additional sessions are now being planned for all other staff. Initiatives for the coming year will focus on cultural awareness training and improved communications with staff on Affirmative Action policies, practices and accomplishments.

The Section reviewed performance management practices with managers and supervisors, with a view to encouraging ongoing communication among staff and improving the effectiveness of annual performance reviews. Results have been positive with a marked increase in the completion of performance reviews.

The Section continued to play a key role in the implementation of the department's decentralization initiatives. As well, we have assisted with human resource planning for the Mines Branch and the new Marketing Branch.

Computer Services

The Computer Services Section provides the department with data processing and word processing support services, including:

- computer systems design and implementation;
- equipment evaluation and acquisition;
- user education and assistance; and
- maintenance of the main word processing equipment.

The Section has completed a replacement of old word processing equipment with new personal computers connected via Novell Local Area Network and using Ms-Word for word processing and special software for sharing laser printers. The configuration also includes a link to the Legislative Building to enable the department to exchange information documents with the Deputy Minister's Office.

To assist the transition to the new Mines and Minerals Act, we developed a personal computer system to handle the renewal of mining claim leases and the reissuance of legal certificates.

We also assisted Geological Services Branch with the production of automated geological maps using our digitizing and plotting equipment as well as Geographic Information System software.

New systems scheduled for the Mines Branch in 1992/92 include a work commitment system, and the consolidation of all lease information into one simple accessible system. New systems will be developed for the Petroleum Branch to monitor and analyze Crown oil and gas dispositions, and for calculating Crown royalty and gas production tax.

Expenditures by Sub-Appropriation

23-1C Administrative Services	Actual 1991/92 $	Estimate 1991/92 SY	Estimate 1991/92 $	Variance Over(Under)
Total Salaries	703,300	18.26	687,800	15,500
Total Other Expenditures	522,800		529,600	(6,800)
Total Expenditures	1,226,100	18.26	1,217,400	8,700

During the year responsibility for the department's Library was transferred from Administrative Services to the Marketing Branch. However, the salary and operating expenditures were included in Administrative Services until the end of the fiscal year.

Marketing Branch

The Marketing Branch was formed in 1991 to actively promote the development of the Province's mineral and energy resources. The branch will work closely with all facets of the mineral and energy sectors, as well as the investment communities in Manitoba, Canada and the rest of the world.

In November 1991 the Marketing Branch assumed responsibility for the Mineral Development Section, Information Services, and Library Services previously attached to Mineral Resources, Energy Administration, and the Administrative Services Division, respectively.

The Marketing Branch provides marketing, business development, editorial, public relations and research, cartographic, information distribution, library, and printing and publishing services for the department. In addition the Information Centre provides Manitobans with information relating to the mineral, petroleum and energy sectors. The library is a resource centre that offers research and reference services to industry and the general public as well as departmental staff.

The Marketing Branch has promoted mineral and energy development and awareness through a series of events at public workshops, symposia and meetings of professional associations. It played a major role in the formulation of incentive programs designed to encourage exploration and development of the mineral resources in Manitoba. These include: amendments to the Mining Tax Act to provide for a mining tax holiday for new mines and a mining tax exploration incentive; and, the implementation of the Manitoba Mineral Exploration Incentive Program. The Branch initiated and coordinated the successful 'Stake a Claim in Manitoba' campaign at the Prospectors and Developers Association of Canada annual convention in Toronto, as well as meetings between the Minister and the mining, energy and investment communities.

The Business Development Unit of the branch focused most of its attention during the year on the following commodities: chromite, silica, magnesium-rich dolomites, high calcium limestone, vanadium, building stone, peat moss and potash.

The Business Development Unit is also responsible for the province's activities under Sector 'C', (Economic Development) of the Canada-Manitoba Partnership Agreement on Mineral Development, as well as being represented on the Management Committee. It was also involved with the Sustainable Development Minerals Working Group, and participated in discussions regarding Treaty Land Entitlement and Northern Flood Agreement Claims.

The Information Centre responded to over 6,783 energy and 3,355 mineral enquiries in the 1991/92 fiscal year. The library added 3,694 books, reports, maps and periodicals to its collection and made 344 loans and 332 interlibrary loans.

Expenditures by Sub-Appropriation

23-1D Marketing	Actual 1991/92 $	Estimate 1991/92 SY	Estimate 1991/92 $	Variance Over(Under)
Total Salaries	548,700	14.00	538,800	9,900
Total Other Expenditures	145,400		148,000	(2,600)
Total Expenditures	694,100	14.00	686,800	7,300

ENERGY

Manitobans currently spend approximately $2.4 billion annually to heat and light their homes, to power business, industry and agriculture, and to fuel their transportation needs. Energy expenditures represent 10.0% of the provincial gross domestic product.

Manitoba is a net importer of energy. While we are a net exporter of electricity, all natural gas and refined petroleum products used in the province are imported from Western Canada. Because there are no refineries in Manitoba, crude oil produced in the province is exported to refineries in Ontario and the United States. Crude oil production in 1991 was approximately 1 950 cubic metres per day and is equivalent to 30% of the province's petroleum requirements. More than 72% of our energy demand is met by imported natural gas and refined petroleum products. The installed electrical generating capacity in Manitoba is 4 954 megawatts.

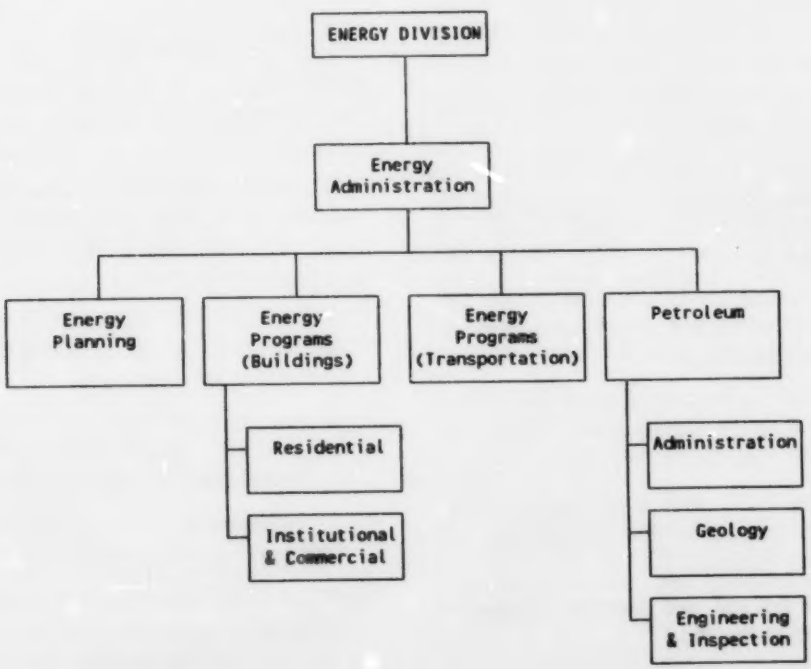
Detailed information on Manitoba's energy sector and petroleum industry, is available from the department's Information Centre.

The primary goals of the Energy Division are:

- to ensure a secure supply of energy at a reasonable cost and to promote the efficient use and conservation of energy;
- to encourage alternative fuels and transportation modes that protect the environment and reduce dependence on energy resources imported by the province; and
- to encourage the exploration, development, and production of the province's petroleum resources in a way that provides maximum benefits to Manitoba with due regard to protection of the environment.

Energy Division Organization

In the year under review, the Energy Division comprised the Assistant Deputy Minister's office and four branches: Energy Planning; Energy Programs (Buildings); Energy Programs (Transportation); and Petroleum.



Energy Administration

The Assistant Deputy Minister's office provides overall direction to the division, evaluates and ensures Division objectives are met; manages human and financial resources; and maintains liaison with senior personnel in other departments, governments, agencies, and energy industries on matters related to the development and management of energy resources.

Expenditures by Sub-Appropriation

23-2A Energy Administration	Actual 1991/92 $	Estimate 1991/92 SY	Estimate 1991/92 $	Variance Over(Under)
Total Salaries	157,200	4.00	150,200	7,000
Total Other Expenditures	28,100		34,400	(6,300)
Total Expenditures	185,300	4.00	184,600	700

During the year responsibility for the department's Information Centre was consolidated in the new Marketing Branch, although salary and operating expenditures for the centre were included in Energy Administration until the end of the fiscal year.

Energy Planning Branch

The Energy Planning Branch collects and analyses information relative to Manitoba's energy requirements. Branch staff use research and data collection to assess the impact of national and international energy developments and suggest energy strategies for Manitoba to ensure a secure energy supply at reasonable cost.

Activities and accomplishments of the Energy Planning Branch included:

- collection and analysis of energy consumption data and price information for the ongoing development of a provincial energy data base and information system;
- review of Manitoba Hydro's rate application to the Public Utilities Board (PUB), and monitoring of the PUB hearings;
- analysis of the preliminary results of the National Energy Board's (NEB) study of interprovincial electricity trade;
- analysis of the NEB review of Market-Based Procedures in respect of the natural gas export approval process;
- review of the natural gas storage options of Centra Gas Manitoba Inc.;
- examination of the propane rate application of Stittco to the PUB;
- assessment of natural gas direct purchasing in Manitoba;
- review of TransCanada Pipeline's toll applications to the NEB, and analysis of the cost impact of toll changes to the cost of natural gas delivered to Manitobans;
- examination of overall provincial energy use and annual cost of Manitoba's energy consumption;
- monitoring of energy developments and regulatory matters in other jurisdictions and analysis of implications for energy supplies and pricing in Manitoba;
- examination of innovative royalty/tax regimes with respect to encouraging petroleum exploration and development;
- preparation of discussion material for the Council of Energy Ministers' Annual meeting held in Halifax in September, 1991;
- examination of the potential for extending natural gas service to rural areas; and
- preparation of a draft Manitoba Energy Act, in conjunction with the development of an Energy Strategy for Sustainable Development.

Expenditures by Sub-Appropriation

23-2B Energy Planning	Actual 1991/92 $	Estimate 1991/92 SY	Estimate 1991/92 $	Variance Over(Under)
Total Salaries	273,100	7.00	336,800	(63,700)
Total Other Expenditures	32,700		96,000	(63,300)
Total Expenditures	305,800	7.00	432,800	(127,000)

Energy Programs (Buildings) Branch

The Energy Programs (Buildings) Branch is responsible for the promotion of energy conservation and energy efficient technologies in the building sector. Activities are directed to the residential, institutional, commercial and industrial sectors with a goal to help Manitobans reduce their energy use and costs.

Manitoba Energy Audit Program

This program promoted effective energy use in industrial, commercial, institutional and agricultural facilities. Energy audits of more than 1900 Manitoba industries, businesses, institutions, and community based organizations have been completed since the program was initiated in 1980. More than $24.7 million in potential annual energy savings have been identified.

During the 1991/92 fiscal year, 80 facilities were audited with more than $1.2 million in potential annual energy savings identified.

The focus of the program was redirected to public buildings, in line with the government's wish to demonstrate a leadership role by "getting its own house in order".

As part of fiscal restraint and recognizing similar audit activities conducted or planned by the energy utilities, the Energy Audit Program was terminated March 31, 1992.

At year end, the Department was having discussions with Manitoba Hydro regarding Manitoba Hydro taking over the audit equipment and the Department providing information and assistance relative to audits that will be carried out under Manitoba Hydro's new Power Smart Program.

Public Information

- Energy Encounters Exhibit - technical and financial support ($20,000) was provided for the construction of an Energy Encounters Exhibit at the Fort Whyte Centre for Environmental Education.
- Home Energy Savers Workshops are delivered throughout the province to inform homeowners on how to retrofit their homes. In fiscal 1991/92, 862 people participated in 39 workshops. Since the program began in 1986, 3,688 homeowners have participated in 199 workshops.
- The Building Advisory Service provides support to the Energy Information Centre for technical enquiries related to buildings.
- Home Retrofit Booklets provide homeowners with objective information on retrofit techniques and offer a detailed guide for both contractors and homeowners.

Workshops and Seminars

Branch personnel assisted in the planning and delivery of the following:

- "Builders' Forum 1991", organized by the Manitoba Home Buildings Association.
- "Indoor Environment and the Quality of Indoor Life" seminars, organized by the Canadian Construction Research Board (Manitoba Chapter).
- Seminar on Energy Management was presented to St. Vital School Division Building Managers with the cooperation of Manitoba Hydro.

MHBA Task Force on Energy Efficient Housing

Chaired by the Department, a task force with representatives from Manitoba Hydro, Centra Gas, Winnipeg Hydro, and the Manitoba Home Builders' Association (MHBA), worked on a number of initiatives related to the construction of energy efficient homes.

- Design Guide - a design guide has been developed to assist home builders and potential home buyers to consider energy efficient options when planning their new home. All participants in the task force have endorsed and are now using this guide.
- R-2000 Work Plan and Operating Agreement - Energy, Mines and Resources Canada (EMR) has committed substantial assistance and funding to promote R-2000 housing in Manitoba. In order for MHBA to access EMR's funding, a marketing plan and an operating agreement were developed.

  Funding was provided by Manitoba Hydro, Centra Gas, Manitoba Energy and Mines ($6,000), and MHBA to cover the costs of the Design Guide, and complete the preliminary marketing plans. Agreements were signed on February 4, 1992 at the Canadian Home Builders Conference in Winnipeg. The main funding for the R-2000 program will be coming from EMR Canada (approximately 50%). Work is now proceeding at MHBA to set up the R-2000 program organization.
- Advanced House Project - The branch provided the Manitoba Home Builders' Association with technical and financial support ($25,000) to prepare what turned out to be a successful bid for an "Advanced House" to be built in Winnipeg.

  EMR launched an Advanced House Program to build a series of the most energy efficient and environmentally responsible houses in Canada. Competition criteria stipulated that the proposed homes must be at least twice as energy efficient as current R-2000 homes. MHBA's bid was accepted by EMR with construction of the home scheduled to begin in April, 1992.

ACE/CARES Conservation and Renewable Energy Subcommittee

This subcommittee of the Advisory Committee on Energy serves as a liaison for the provinces, territories and EMR on matters of energy technology programs and energy information transfer.

Present activities include the following initiatives:

- Monitoring the development of energy efficient standards for appliances and equipment;
- Developing an energy code for buildings; and
- Fostering exchange of energy information between EMR and other provinces and territories.

Manitoba Hydro Demand Side Management Initiative

In April, 1991, Manitoba Hydro formally announced their "Power Smart" program. This demand side management initiative is a major effort to encourage the wise and efficient use of electricity. The department provided Manitoba Hydro and their consultants with information and advice about the department's previous experiences with energy management programs and service.

Other Committees and Associations

The Branch also works closely with EMR through the Buildings Energy Technology Advancement (BETA) Program with a view to conducting joint initiatives and projects. Current projects that the branch is involved in include; the Advanced House, the R 2000 program, and the C 2000 program.

In addition, Branch staff work with the commercial buildings construction industry on a variety of associations and committees dealing with heating systems, siding and windows, refrigeration and air conditioning, appliances and equipment, as well as building codes. These include:

- Energy Management Task Force on Commercial and Office Buildings
- Heating, Refrigeration and Air Conditioning Institute (HRAI)
- Siding and Window Dealers' Association of Canada (SAWDAC)
- Canadian Construction Research Board

- Canadian Standards Association's (CSA) Advisory Council on Energy Efficiency
- National Energy Conservation Association (NECA)

Energy Projects

The Branch supported a variety of projects demonstrating or promoting effective energy management techniques.

Ground Source Heat Pump Monitoring Project

The Manitoba Research Council monitored the performance of three large scale ground source heat pumps (GSHPs) in Manitoba at an industrial facility (fish hatchery), a commercial office building, and at an institutional building (school).

The $165,000 study was sponsored by Manitoba Energy and Mines ($25,000), EMR ($50,000), Manitoba Hydro ($40,000), and the Canadian Electrical Association ($50,000).

The final report was completed and distributed in late 1991/92. The monitoring results illustrated that the performance of GSHPs can vary widely. Site specific conditions need to be carefully analyzed by prospective users of these devices before they decide to install them.

Field Study of Livestock Water Fountains

The Prairie Agricultural Machinery Institute compared field performance of electrically heated and energy-free livestock water fountains. The $71,400 study was sponsored by Manitoba Energy and Mines ($7,000), EMR ($10,500), Manitoba Hydro ($6,000), Ontario Hydro ($6,000), Canadian Electrical Association ($25,000), the cattle industry ($6,000), the manufacturers ($4,900), and the Prairie Agricultural Machinery Institute ($6,000). The final report was completed and distributed in 1991/92. The study indicated that the increased capital and maintenance costs of the energy free livestock energy fountains tend to offset the cost of the electrically heated fountains. It was noted that escalating electricity prices could change the situation.

Energy Reference Library

A collection of books, manuals and periodicals was assembled and loaned to Red River Community College to heighten awareness of energy efficient building techniques among their Civil Technology students.

Energy Calendar 1992

The Branch assisted EMR in developing a 1992 Energy Calendar. The artwork of Elliana Allon, Grade 5 student, Greenway School, was chosen for the month of June. The calendars were distributed to all schools, as well as day care centres and libraries in Manitoba.

Expenditures by Sub-Appropriation

23-2C Energy Programs (Buildings)	Actual 1991/92 $	Estimate 1991/92 SY	Estimate 1991/92 $	Variance Over(Under)
Total Salaries	384,400	10.00	436,900	(52,500)
- Grants/Transfer Payments	25,000		-	25,000
- Other Expenditures	103,000		168,200	(65,200)
Total Other Expenditures	128,000		168,200	(40,200)
Total Expenditures	512,400	10.00	605,100	(92,700)

Energy Programs (Transportation) Branch

The Energy Programs (Transportation) Branch coordinated the development of transportation policies and programs in the context of sustainable development and promoted alternative fuel and transportation modes within the public and private sectors of Manitoba.

During 1991 Branch activities were expanded to include the analysis of environmental impacts associated with the production and consumption of fuels in Manitoba.

Activities and accomplishment for the Branch included the following:

Pro-Trucker Program

This is a jointly funded/delivered program by federal/provincial governments and private industry. It promotes the efficient use of energy in the Manitoba trucking industry.

A major objective for 1991/92 was to increase participation in the premier event of the Pro-Trucker Program - the Fuel Economy Challenge. A 70% increase over last year's participation was achieved. Analysis of the Challenge results, produced by Branch staff, indicated that over the last four years top provincial drivers have increased their fuel economy 11%, resulting in annual industry energy savings of $3 to $4 million, and significant reductions in exhaust emissions.

Greenhouse Gas Inventory

A provincial work plan for conducting a comprehensive greenhouse gas inventory was developed by the Branch. The inventory is a joint responsibility shared by the Branch and the Department of Environment. Branch responsibilities include developing the energy related inventory and completing the final report in 1992/93.

MPIC Database Acquisition and Analysis

An analysis of the Manitoba Public Insurance Corporation data base was first undertaken in 1990/91, and has now been adopted as an annual activity to provide information on the efficiency of vehicles registered in Manitoba. The acquisition and analysis of these data was critical to the preparation of the greenhouse gas inventory.

A specific objective (completed during the year) was the development of a computer-based program for identifying agricultural energy users and other specific transportation energy users who might need to be contacted in the event of an emergency petroleum shortage (as for example might have occurred during the Persian Gulf Crisis of early 1991).

Department Vehicle Fleet Procurement Policy

An internal pilot program was developed to identify appropriate vehicles for the department's own use, based on potential capital and operating costs, and carbon dioxide emissions. Based on the analysis, which indicated significant potential energy, dollar and carbon dioxide emission savings, the department has implemented a vehicle replacement policy based on a full life cycle cost analysis. The effect of this policy will be monitored and evaluated during the life of the vehicles. This pilot project will be used to recommend changes to the government vehicle fleet procurement policy, if the results so warrant.

Natural Gas Vehicle Feasibility Study

Centra Gas and Manitoba Energy and Mines completed a study that assessed the technical and economic feasibility of operating fleet vehicles on compressed natural gas in Manitoba. The report concluded that under certain circumstances, the operation of compressed natural gas vehicles was commercially viable. The department continues to assist Centra Gas in its discussions with stakeholders, and to develop a business plan to access this opportunity.

Public Information Activities

Branch staff have developed and maintained detailed technical files to answer questions from both the public and industry related to energy issues. Specific topics covered in these files include propane, natural gas, ethanol/gasohol, methanol, gasoline, diesel fuel, octane ratings, peat, electrical/hybrid vehicles, solar energy, geothermal energy, hydrogen, nuclear energy, and wind energy.

Plan Winnipeg Review

As part of an intergovernmental task group, the Branch has provided energy policy input and technical review for the development of Plan Winnipeg. The Branch will continue these activities in 1992/93 as the provincial government assesses the plan put forward by the City of Winnipeg.

Manitoba Hydro - End Use Information and Analysis

Branch staff prepared and provided Manitoba Hydro with an analysis of the department's Commercial and Residential End Use Data base. The purpose of this undertaking was to assist Manitoba Hydro in developing the new Power Smart demand side management initiatives.

Transportation Working Group

This group reports to the Advisory Committee on Energy, and coordinates activities of the provinces, territories and Energy, Mines & Resources Canada on matters relating to transportation modes and alternative transportation fuels. A Branch representative currently chairs the group. The group is presently preparing a report on fuel quality issues for the 1992 meeting of the Council of Energy Ministers.

Western Provincial/Territorial Air Quality Issues Coordinating Committee

This committee comprises representatives from Energy and Environment departments of the four western provinces and the two territories. The committee is charged with developing work plans and undertaking research respecting the issues of global warming, ozone depletion, acid deposition, ground level ozone, air toxics, and particulates and visibility.

Expenditures by Sub-Appropriation

23-2E Energy Programs (Transportation)	Actual 1991/92 $	Estimate 1991/92 SY	Estimate 1991/92 $	Variance. Over(Under)
Total Salaries	148,100	3.00	148,400	(300)
Total Other Expenditures	55,500		90,900	(35,400)
Total Expenditures	203,600	3.00	239,300	(35,700)

Petroleum Branch

The goal of the Petroleum Branch is to encourage and facilitate development of Manitoba's oil and gas resources in a manner consistent with the principles of sustainable development.

The Branch administers those provisions of The Mines Act, The Pipe Line Act, and The Gas Storage and Allocation Act that govern exploration, development, production, transportation, and storage of crude oil and natural gas. We are responsible for The Oil and Gas Production Tax Act, and provide technical assistance to The Oil and Natural Gas Conservation Board.

Technical studies and reports prepared by branch staff provide valuable assistance and encouragement for new exploration and development of oil and gas resources. Technical information and professional advice is provided to both the petroleum industry and the general public.

The following initiatives were undertaken during 1991/92:

- The Petroleum Branch participated in technical seminars and trade shows in Weyburn, Regina, Calgary, and Billings, Montana as part of the Department's efforts to market our oil and gas potential and attract new investment in the province.

- A new Manitoba Drilling Incentive Program was developed. Announcement of the Program in October, 1991 followed an extensive review of existing programs that were due to expire at the end of 1991, and consultation with petroleum industry associations. Presentations explaining the new program were made in Winnipeg, Virden and Calgary.
- Work continued on drafting a new Oil and Gas Act to replace Parts II and III of the present Mines Act, The Pipe Line Act and Part I of The Gas Storage and Allocation Act. The proposed Oil and Gas Act will embody the principles of sustainable development and will replace legislation largely unchanged in more than 30 years.
- September 3, 1991 marked the official opening of the new, expanded Virden Regional Office. As a result of the government's decentralization initiative, 3 positions have been moved from Winnipeg to the Virden Office, which will now have a larger role in providing technical assistance and information to the petroleum industry.

The Petroleum Branch comprises three sections: Administration, Geology, and Engineering and Inspection. The managers of the three sections report to the director of the Petroleum Branch.

Administration Section

Responsibilities of the Administration Section include:

- the administration of regulations under The Mines Act governing the disposition of Crown oil and natural gas rights;
- the collection of Crown oil and natural gas royalties;
- the collection of taxes on production from freehold oil and gas rights under The Oil and Gas Production Tax Act; and
- the administration of the Manitoba Drilling Incentive Programs.

Petroleum Revenues

The Administration Section is responsible for the collection of petroleum revenues, and for conducting the twice yearly sale of Crown leases and exploration reservations. The Section collects annual lease rentals, monthly Crown royalties and freehold oil taxes, and processes lease renewals and extensions. We are also responsible for the enforcement of other provisions under the Petroleum Crown Leasing Regulation, the Petroleum Crown Royalty and Incentives Regulation, and portions of the Petroleum Drilling and Production Regulation.

During 1991/92, the Administration Section collected $8.1 million in revenues from the petroleum industry. These revenues comprise $2.2 million in Crown oil royalties, $5.7 million in oil production taxes and $0.2 million from Crown lease sale bonuses, rentals and fees. This represented a 25% decrease from 1990/91, reflecting lower world oil prices and reduced production. These figures exclude other provincial revenues from corporate capital tax, sales tax, municipal tax and corporate and individual income tax.

Sales of Crown Leases and Exploration Reservations

Two Crown oil and natural gas lease sales were held in 1991/92. Twenty-four leases covering 1 920 hectares were sold for a total of $130,275, up from 1990/91's lease revenue total of $116,650. No exploration reservations were sold during 1991/92.

Lease sales in 1991/92 generated the lowest revenue since sales were re-implemented in 1979. Since 1978, the province has received $15,808,418 in revenue from the disposition of Crown leases and exploration reservations.

As of December 31, 1991, 25 795 hectares of Crown oil and natural gas rights were under disposition. Crown leases accounted for 21 667 hectares of this total (84%) and exploration reservations for 4 128 hectares (16%). Compared to 1990, the total area under disposition decreased by 14%.

We also processed 31 lease renewals, 7 lease extensions, 26 lease cancellations, 1 lease surrender and 43 transfers.

Data Collection

The Section collects and publishes monthly oil production data, and data on the disposal and injection of salt water for all active wells in the province. As of December 31, 1991, there were 1,722 active wells in Manitoba. A new improved format for the Monthly Production Statistics Report was introduced with the January, 1991 report. We are now able to provide well production information in digital format for the years 1988, 1989, 1990 and 1991.

The 1991 Oil Activity Review publication, which provides a detailed statistical review of all petroleum industry activities, was compiled and produced.

The Administration Section participated in the preparation and presentation of a seminar on Manitoba regulations as part of the Canadian Association of Petroleum Landmen's (CAPL) Education Series. Staff presented a production reporting seminar in Virden for industry personnel.

New Manitoba Drilling Incentive Program (1992-1996)

The new Manitoba Drilling Incentive Program provides licensees of new wells drilled after January 1, 1992 and before January 1, 1997 a holiday volume of production free of Crown royalties or freehold production tax. The amount of holiday volume earned is a function of oil price and location of the new well with respect to other wells. Holiday volumes of up to 10 000 cubic metres can be earned by the new well.

The temporary horizontal drilling incentive announced in September, 1990 has been extended to the end of 1992.

A special deep formation holiday volume of 50 000 cubic metres is provided for the first producing well in each deep formation from which there is currently no production.

A booklet, "Manitoba Petroleum Royalty and Tax Information" that provides more detailed information on the new incentive program was prepared and is available from the Branch.

Manitoba Drilling Incentive Program (1987-1991)

The previous Manitoba Drilling Incentive Program was in place from January 1, 1987 to December 31, 1991. Companies were exempt from payment of royalty or tax on a "holiday volume" of oil produced from qualifying new oil wells. The "holiday volume" varied for each well, but could not exceed a maximum of 10 000 cubic metres or five years of production, whichever is greater.

In December, 1991, there were 111 wells producing holiday oil volumes under this Program. The average volume earned per well has been 1 725 cubic metres.

One hundred and thirty-eight of the wells in the Program have produced the holiday volume granted. Production from these wells is now classified as "new oil" for royalty and tax purposes.

Enhanced Oil Recovery Incentive Program (1987-1991)

The Enhanced Oil Recovery Incentive Program was designed to maximize oil recovery by encouraging enhanced oil recovery (EOR) projects.

Wells in new or enlarged EOR projects approved after January 1, 1987, and fully implemented prior to January 1, 1992, were eligible for an incentive period of up to 60 months. During this period, the operators benefit from reduced Crown royalty and tax rates on production from the projects.

Ten enhanced oil recovery projects involving 135 tracts have received incentive periods under the program. Five new projects qualified under the program in 1991.

The program has not been extended because enhancements to the new Drilling Incentive Program will be more cost effective.

Manitoba Drilling Incentive Program (1979-1987)

Nine wells continue to produce under the Manitoba Drilling Incentive Program (1979-1987). These wells continued to qualify for special reduced Crown royalty/tax rates during 1991.

Geology Section

The Geology Section prepares reports on Manitoba's petroleum geology and hydrocarbon potential to encourage and assist in the exploration and development of the province's petroleum resources. It also administers the Petroleum Geophysical Regulation.

A major accomplishment this year was the completion of a report summarizing available information on the deeper formations in Manitoba that have oil potential. This open file report will be issued in May, 1992.

During 1991/92, a U.S. - Canada Cross Border Stratigraphic Correlation Cross Section was prepared and published in cooperation with the North Dakota Geological Survey. The Section also participated in the preparation of a paper on the petroleum potential of the Bakken formation, a joint project with the North Dakota Geological Survey and Saskatchewan Energy and Mines. The paper was presented at the Sixth Williston Basin Symposium in Regina in October, 1991.

A system is maintained for the designation of field and pool boundaries. As of December, 1991, Manitoba had 13 oil fields and 72 active designated pools. Field and pool codes to fifty-four new wells were assigned during 1991/92.

Engineering and Inspection Section

Engineering Unit

Under the authority of the Petroleum Drilling and Production Regulation the Engineering Unit issues drilling licences and processes applications to recomplete, suspend, or abandon wells. It also issues permits for all field processing facilities. In 1991/92, a total of 34 drilling licences were issued. Ninety-one other well technical applications were processed. In addition, 164 applications related to oil and gas facilities were processed.

Technical studies are undertaken of oil and gas reserves and enhanced recovery potential. Information and advice are provided to the petroleum industry and the public at the Winnipeg and Virden Offices.

The Engineering Unit developed new suspension and abandonment procedures that will be discussed with industry representatives.

A paper on Petroleum Exploration and Development Opportunities in Manitoba was presented at the Canadian Institute of Mining and Metallurgy (CIM) conference in Regina. This paper will be published in the CIM's Journal of Petroleum Technology.

A paper on the reservoir characteristics of the Bakken Formation was also prepared and has been accepted for presentation at the CIM's technical meetings in Calgary in June, 1992.

Inspection Unit

The Inspection Unit enforces regulations under The Mines Act related to geophysical surveys, drilling, production, and pipeline operations. Specifically, the inspectors license and inspect field facilities, investigate complaints, witness specific operations, and interpret and communicate departmental or regulatory requirements to industry personnel. Each of the more than 2,200 production related facilities in the Province were inspected at least once during the year. District offices are located in Virden and Waskada.

Inspectors visit all abandoned wellsites to ensure that the abandonment and clean-up have been done properly and that plant growth has been established. During 1991/92, 72 wells were issued a Certificate of Abandonment, allowing for the release of the well from performance deposit requirements.

The unit also manages a program of environmental protection involving the reclamation of all oil or salt water spill sites. Fifty-eight spill sites were inspected during 1991/92.

They coordinated an Oilfield Firefighting Seminar that brought together volunteer firefighters, oil industry personnel and government officials.

Petroleum Industry Overview: 1991

New Wells Drilled:	54
Oil Produced:	712 792 m^3 (4,485,500 bbls)
Value of Oil Sales:	$90,343,000
Average Oil Price:	$126.74 /$m^3$ ($20.15 /bbl)
Wells Produced - December, 1990:	1,408
Estimated Industry Expenditures:	$69 million

More comprehensive information and historical statistics on Manitoba's petroleum industry is presented in the 1991 Oil Activity Review. This publication is available from the Petroleum Branch and the Department's Information Centre.

Expenditures by Sub-Appropriation

23-2D Petroleum	Actual 1991/92 $	Estimate 1991/92 SY	Estimate 1991/92 $	Variance Over(Under)
Total Salaries	736,500	19.00	744,100	(7,600)
Total Other Expenditures	188,700		143,000	45,700
Total Expenditures	925,200	19.00	887,100	38,100

Oil and Natural Gas Conservation Board

The Oil and Natural Gas Conservation Board is established under The Mines Act. The board has powers to inquire into all matters related to the drilling, production, storage, and transportation of oil and natural gas in Manitoba. The board may conduct hearings and may make orders as specified under The Mines Act. No hearings were conducted by the board in 1991/92.

The board received 13 applications and issued 6 orders and granted approvals to 3 other applications in 1991/92. Technical support to the Board is provided by the Engineering Unit of the Petroleum Branch.

Conawapa Coordination Unit

The Conawapa Coordination Unit was established in 1990 to coordinate activities of government departments and agencies, Manitoba Hydro, the federal government and other interested groups, in relation to the proposed construction of the Conawapa Generating Station and associated transmission facilities.

In 1991/92 the unit continued to respond to inquiries about job training, employment and business opportunities. It began distribution of two brochures designed to provide preliminary information on the Conawapa and Bipole III projects to individuals and industry.

The unit completed a telephone survey of specific northern businesses, in preparation for publication of an updated Northern Business Directory, related to Conawapa's potential needs, in the spring of 1992.

The Unit has conducted detailed reviews of previous experiences respecting northern hydro developments, in particular the Limestone project, and is now developing specific policy and program recommendations for government, to ensure the employment and business opportunities associated with the project are maximized for Manitobans and particularly for northern residents.

Expenditures by Sub-Appropriation

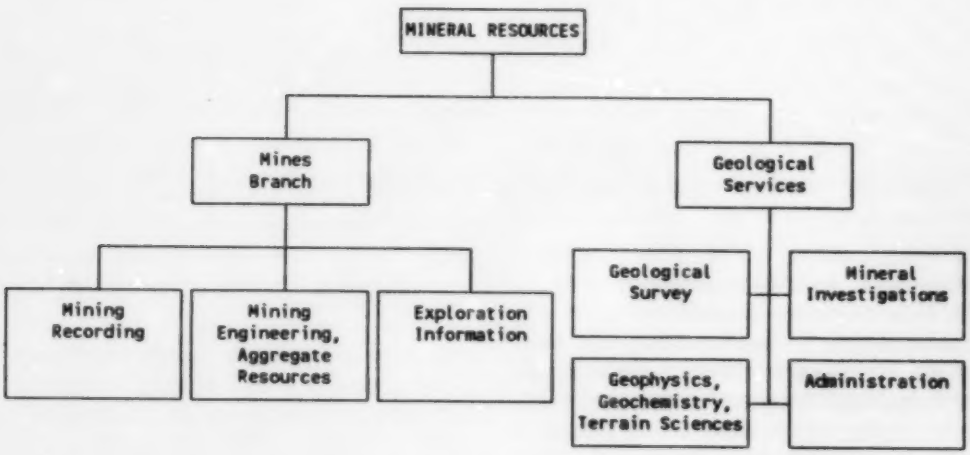
23-2F Conawapa Project Coordination	Actual 1991/92 $	Estimate 1991/92 SY	Estimate 1991/92 $	Variance Over(Under)
Total Salaries	81,900	2.00	81,500	400
Total Other Expenditures	141,500		188,300	(46,800)
Total Expenditures	223,400	2.00	269,800	(46,400)

MINERAL RESOURCES

Mineral Resources comprises two branches: the Mines Branch and the Geological Services Branch that together provide services and programs in support of the metallic and nonmetallic minerals industries in Manitoba.

Mineral Resources Organization

At the beginning of 1991/92, the Mineral Resources Division also included the Mineral Development Section. During the year the responsibilities of this Section were transferred to the Marketing Branch.



Mineral Development Section

In November 1991, the Mineral Development Section was transferred to the Marketing Branch and was renamed the Business Development Unit. However, until the end of the 1991/92 fiscal year salary and operating expenditures for the Mineral Development Section continued to be made under a separate sub-appropriation as shown below. The 1991/92 activities of the section are reported under the Marketing Branch on Page 13.

Expenditures by Sub-Appropriation

23-3A Mineral Development	Actual 1991/92 $	Estimate 1991/92 SY	Estimate 1991/92 $	Variance Over(Under)
Total Salaries	225,300	3.00	225,300	-
Total Other Expenditures	216,100		282,600	(66,500)
Total Expenditures	441,400	3.00	507,900	(66,500)

Mines Branch

The principal responsibility of the Mines Branch is the administration of legislation governing the disposition of mineral rights (permits, claims and leases), the exploration, development, and production of the province's non-fuel mineral resources, and the rehabilitation of mines and quarries. The year under review was the last year during which these activities were conducted under the old Mines Act. A new Mines and Minerals Act (Chapter M162 of the Continuing Consolidation of the Statutes of Manitoba) was passed by the Legislative Assembly and received Royal Assent on July 25, 1991. The Act was proclaimed on April 1, 1992. During the year Branch staff devoted considerable time to the preparation of regulations under the Act, and during this process were involved in consultation with representatives of the mining and construction industries. Other activities carried out by the Mines Branch included the continued compilation of an inventory of the province's aggregate resources, and administration of provincial land-use policies dealing with the conservation of aggregate resources.

The Branch comprises three sections; Mining Recording, Mining Engineering and Aggregate Resources, and Exploration Information. Section heads report to the Director of Mines.

Mining Recording

Mining Recording offices are located in Winnipeg, The Pas and Flin Flon. A new regional office will be opened in Thompson during the 1992/93 fiscal year.

Each office maintains up-to-date records of mineral dispositions and all legal transactions relating to mineral dispositions as required by legislation. The general public can access the computer database on mineral dispositions through terminals in each of the offices.

Staff in the three recording offices process applications for mineral dispositions; monitor and inspect the activities of disposition holders for compliance with the regulations; and collect fees, rentals, royalties, rehabilitation charges, and cash security deposits payable under the regulations.

During 1991, staff recorded 585 mining claims covering a total area of 101 636 hectares. Page 31 shows the number and area of mineral dispositions in good standing at the end of 1991. Details of the types of Crown mineral dispositions issued in 1991 are shown on Page 32.

Exploration Information Section

The Exploration Information Section reviews reports of exploration work submitted by mineral disposition holders for compliance with regulations under the Mines Act, and maintains a library of exploration data.

During the year, 158 new reports of exploration work were received and assessed, and added to the Assessment Report Files, which now contain 3146 reports. A computer-generated index to the File was released on November 15, 1991. During the year, 186 visitors from the mining sector examined 1,239 reports and purchased 718 copies of reports of work.

The Section is also in charge of the Precambrian Drill Core Library program. In 1991 the core inventory was increased by 4 907 metres from 44 core holes. A new core storage facility closer to Flin Flon has been established at the old Centennial mine site.

Mining Engineering and Aggregate Resources Section

The primary objective of the Mining Engineering Section is to encourage sound mining and rehabilitation practices in Manitoba's mining industry and monitor mining activities for compliance with The Mines Act and Regulations.

Staff made regular visits to the underground mines in the province to monitor the operations, and conducted 3,144 inspections of pits and quarries.

The Section reviewed all Crown land transfers, subdivision and development plans, and zoning by-law amendments that were proposed during the year. Where necessary, staff made appropriate technical recommendations to minimize potential conflicts with mineral extraction.

A workbook, developed by the Section in 1990 outlined the Mineral Substrategy under the provincial Sustainable Development Land and Water Initiative. The workbook contains draft policies and objectives designed to guide mineral exploration and development activities in an environmentally sound manner, and in 1991 public workshops were held throughout the province to receive comments on these draft policies. Policies are now being refined in light of the public response and a document summarizing this input received has been prepared. A policy application strategy and a provincial action plan are being drafted.

Section staff represented the Branch on a variety of committees dealing with such concerns as land use conflicts, Native land claims, and environmental issues. Some of the committees include members of the mining industry and officials of federal and provincial government departments. Section staff contributed to interdepartmental committees concerning the Shoal Lake water management strategy, the municipal taxation of aggregate, and various land use issues. We also provided representation on the Technical and Management Committees of the national Mine Environment Neutral Drainage program (MEND).

The chief mining engineer was a judge at the 1991 Provincial Mine Rescue Competition held in Lac du Bonnet.

Aggregate Resources staff undertook detailed surficial geological mapping, maintained aggregate resource inventories, and prepared land-use recommendations designed to protect valuable aggregate resources. Staff geologists conducted mapping and evaluation of sand and gravel deposits in the Rural Municipalities of Lorne, Pembina and Minitonas and the Local Government Districts of Piney and Mountain.

In response to requests from Municipal Planning Districts, staff compiled data on quarry mineral resources that will be used by the Planning Districts to plan for the protection of the quarry mineral resources.

During the year the Section released three geological reports and twelve more were in preparation.

Expenditures by Sub-Appropriation

23-3B Mines	Actual 1991/92 $	Estimate 1991/92 SY	Estimate 1991/92 $	Variance Over(Under)	Expl.
Total Salaries	1,352,200	33.26	1,340,500	11,700	
Total Other Expenditures	2,397,400		429,100	1,968,300	1.
Total Expenditures	3,749,600	33.26	1,769,600	1,980,000	

1. Overexpenditure is a result of establishing a valuation allowance related to Ruttan Mine agreement ($1,700,000); interest costs on advances related to Flin Flon modernization project ($188,500), and general operating costs ($79,800).

Mineral Dispositions in Good Standing

at calendar year end 1988 to 1991

	1988		1989		1990		1991	
	No.	Hectares	No.	Hectares	No.	Hectares	No.	Hectares
Mining								
Mining Claims	7 624	1 132 422	8 102	1 128 568	7 423	993 820	6 953	901 184
Order-in-Council Leases	4 184	119 382	3 661	120 674	4 032	127 692	222	4 275
Permits	13	324 495	10	218 874	14	384 993	6	230 456
Explored Area Leases	39	14 994	39	15 316	39	15 316	39	15 316
Production Leases	25	12 612	25	12 612	25	12 612	25	10 837
Miscellaneous Mineral Leases	1	403	1	403	1	403	1	403
Special Permit	1	156 876	3	348 496	4	742 858	4	742 858
Former Order-in-Council Leases			523	10 058	152	3 040	222	4 275
Leases Applied For			12	4 529	12	4 529	12	4 529
Potash								
Leases	1	5 787	1	5 787	1	5 787	1	5 787
Quarrying								
Leases	512	15 636	517	16 167	564	21 999	594	23 270
Exploration Permits	16	3 294	21	4 356	32	7 149	28	5 411
Peat								
Leases	36	5 029	38	5 333	38	5 333	39	5 367
Exploration Permits	1	269	-	-	-	-	1	324
TOTAL	12 453	1 791 199	12 953	1 891 173	12 337	2 325 531	8 147	1 954 292

Mineral Dispositions Issued

each calendar year 1988 to 1991

	1988		1989		1990		1991	
	No.	Hectares	No.	Hectares	No.	Hectares	No.	Hectares
Mining								
Mining Claims	1 731	341 772	948	184 723	667	130 105	585	101 636
Permits	8	182 710	8	159 253	7	218 824	-	-
Special Permit	1	156 876	3	348 496	1	394 362	-	-
Quarrying								
Leases	56	2 433	35	1 639	37	1 603	42	1 801
Exploration Permits	10	2 848	7	1 159	15	3 034	13	2 855
Casual Permits	86	-	88	-	104	-	92	-
Permissions to Remove	623	-	595	-	600	-	583	-
Peat								
Leases	-	-	2	304	-	-	1	34
Exploration Permits	-	-	-	-	-	-	1	324

Geological Services Branch

The Geological Services Branch generates authoritative information on the geology of Manitoba in order to encourage and guide mineral exploration in the province. In addition, this information provides a database for developing mineral policy and for determining effective land-use policies. The information is made available through published maps, reports, displays, field demonstrations and presentations at meetings and conferences.

The Geological Services Branch was reorganized in 1991 following the establishment of the new Marketing Branch. Promotional and information services were transferred to the Marketing Branch along with Editorial and Cartographic Services. The consolidated Geological Services Branch now contains four principal sections, the Geological Survey, Minerals Investigations, Geophysics/Geochemistry/Terrain Sciences and Administration.

A new Partnership Agreement on Mineral Development (PAMD) was signed on June 28th, 1991 by the Honourable Jake Epp, Minister of Energy, Mines and Resources for Canada, and the Honourable Harold J. Neufeld, Minister of Energy and Mines for Manitoba. Under this Agreement, a total of $10 million dollars of federal and provincial minerals programming will be directed in support of the minerals industry, during the period 1990-1995. The federal funding is provided through the Western Diversification Office. As was the case with the earlier Mineral Development Agreement (1984-1989), federal and provincial programs will be delivered in parallel, using the combined resources of the federal and provincial governments, with efforts being directed in support of mineral exploration and development and projects related to marketing and public information.

During 1991 Geological Survey field programs were strengthened by additional federal contributions through the EXTECH (the Exploration Science and Technology initiative), and the NATMAP (National Mapping) Shield Margin program, the latter being the first of a new generation of cooperative programs with the Geological Survey of Canada, designed to improve the quality of geological mapping across Canada. The Shield Margin project will bring together the combined resources of the Manitoba and Saskatchewan Provincial Surveys, and the Geological Survey of Canada in upgrading the geoscientific database of the important copper and zinc producing Hanson Lake-Flin Flon-Snow Lake Mining District over the next five year period. The main objective will be to develop a broad array of geological, geochemical and geophysical data files and maps for the region, thereby establishing the first minerals-oriented Geographic Information System in the province. Other significant advances in the north-central sector of the province were realized through completion of regional and high-resolution seismic profiles across the Thompson nickel belt, and regional seismic profiles from Churchill/Superior boundary into Saskatchewan, including north/south cross lines up to Snow Lake, and across the southern margin of the Kisseynew Gneissic belt. These seismic surveys represent the first stage in a major five year multidisciplinary study of the Trans-Hudson Orogen in Manitoba and Saskatchewan, conducted under the aegis of Canada's renowned LITHOPROBE initiative.

Manitoba and Canada also cooperated in mounting new aeromagnetic surveys in the Dawson Bay region, a multiyear program that will eventually complete magnetic survey coverage in the southwestern region of the province.

The Branch continued computerization of its data collection, data processing and publication functions, and for the first time released an electronic database of raw data stemming from the 1985-1989 investigations in the Lake Athapapuskow region. An even more ambitious project (under NATMAP) produced coloured preliminary maps for distribution at the Department's Mineral Activities Forum in November, based on information collected in the Elbow Lake region the same summer.

Field workshops for representatives from the exploration industry, universities and federal and provincial (Manitoba and Saskatchewan) geological surveys, were conducted to compare the geology and mineral deposits in the Manitoba/Saskatchewan cross-border region north of LaRonge, Saskatchewan, and in the Thompson/Cross Lake region. The latter was extended to include a two day demonstration of the geology of the Cross Lake area for the benefit of representatives from the Cross Lake Indian Band. Eight shorter tours

and field demonstrations were given to several company geologists wanting an introduction to the main mining camps, and/or specific aspects of the province's industrial mineral deposits.

Branch geologists attended technical meetings in Calgary, Regina, Saskatoon, Toronto and Fredericton and gave presentations highlighting the province's geology and mineral potential. Three new reports were issued in the Mineral Deposit series, as well as a new 1:250 000 scale bedrock compilation map covering the Churchill/Superior boundary in the Split Lake region. The GAC volume covering the 1987 Trans-Hudson Orogen Symposium in Saskatoon, was published in 1991, and contains several benchmark papers authored by Branch geologists.

Mineral inventory cards were either updated or compiled, and the Manitoba Oil and Gas Well Information system (MOGWIS) is now in the design and implementation phases (Phase II and III), with data verification (Phase IV) well advanced. A full listing of publications generated by the Branch during 1991 is provided in Appendix A.

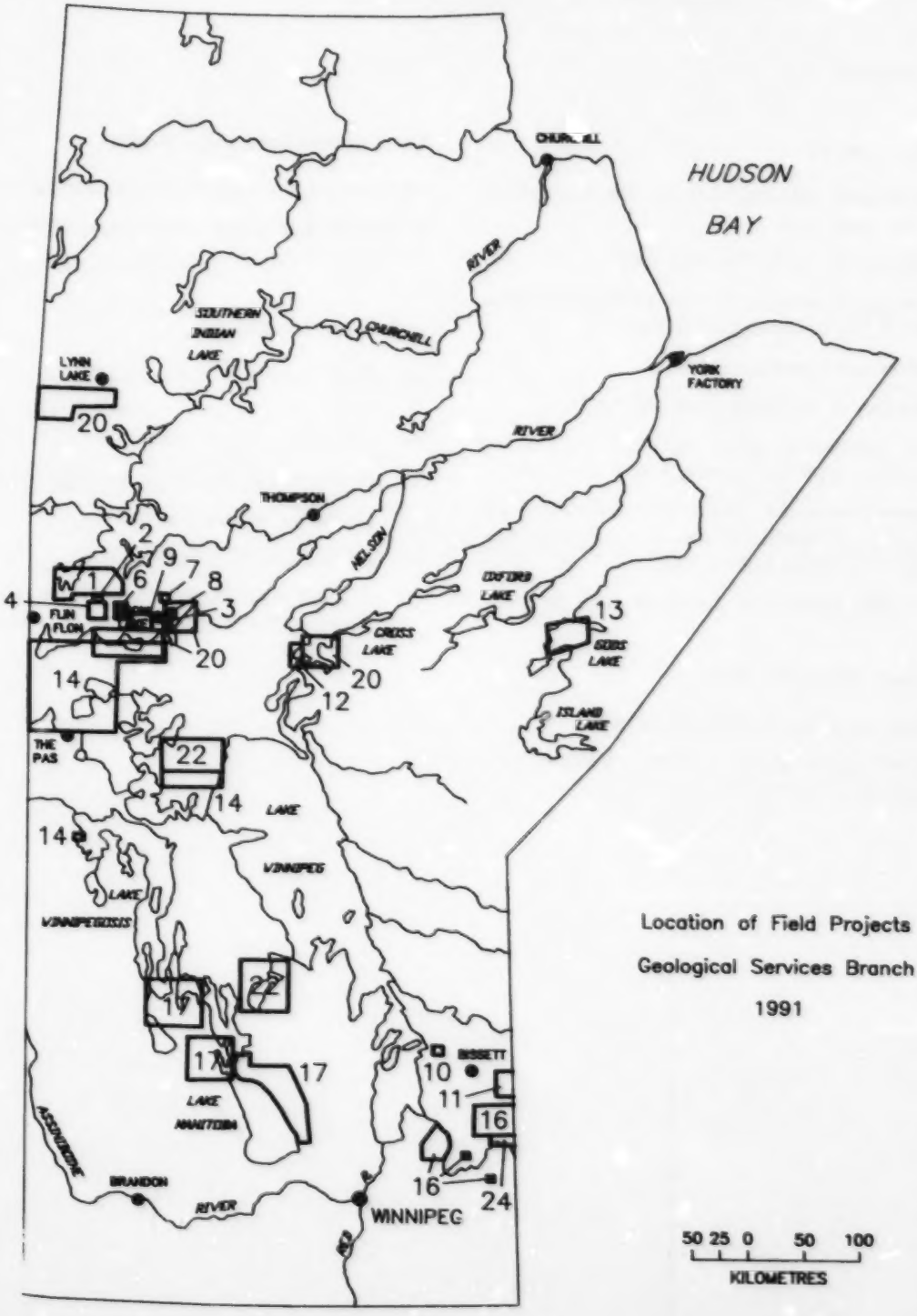
Regrettably, cooperative research with the University of Manitoba, and with researchers in other Canadian universities was severely limited by the reduced resources available to the Branch, and in most instances was limited to exchange of analytical expertise or laboratory facilities.

The format of the annual Mineral Activities Forum in November was expanded, with several talks given by representatives from the mineral industry. The highly popular Core Shack was also expanded, and the meeting augmented by a workshop exploring the possibility of initiating cost-shared joint government/industry airborne geophysical surveys in the Shield Margin region.

Expenditures by Sub-Appropriation

23-3C Geological Services	Actual 1991/92 $	Estimate 1991/92 SY	Estimate 1991/92 $	Variance Over(Under)
Total Salaries	2,255,700	55.11	2,267,600	(11,900)
Other Expenditures	630,700		720,100	(89,400)
Total Expenditures	2,886,400	55.11	2,987,700	(101,300)

Location Of Field Projects, 1991/92



Location of Field Projects

Geological Services Branch

1991

50 25 0 50 100

KILOMETRES

Location Of Field Projects, 1991/92

MAP LEGEND

Flin Flon District

1 Geological investigations in the Kisseynew-Batty lakes area

2 Geology of the Webb Lake area

3 Geological setting of base metal mineralization in the Anderson Lake area

4 Elbow Lake project

6 Geology of the North Star Lake area

7 The geological setting of the Wim massive sulphide type Cu deposit, Snow Lake area

8 Sediment-hosted Zn-Cu (Bur Zone) and Zn-Pb-Ag (Kobar/Ruby) massive sulphide type deposits, Snow Lakes area

9 Till geochemistry of the Snow Lake area

Southeast Manitoba District

10 Geology of the English Brook area

11 U-Pb zircon ages from the Wallace Lake-Beresford Lake area

Thompson-Cross Lake District

12 Cross Lake supracrustal investigations

13 Mineral potential investigations in the Gods Lake area

Manitoba General

14 Stratigraphic mapping and core hole program 1991

16 Dimension stone investigations

17 High-calcium limestone investigations

20 Manitoba mineral inventory

22 Karst in Manitoba's Interlake

24 A Vegetation Geochemical Surveys in the Vicinity of the Tanco Pegmatite, Bernic Lake area

FINANCIAL INFORMATION

Department of Energy and Mines
Reconciliation Statement

Details	1991/92 Estimates
1991/92 Main Estimates	$9,697,400
Allocation of Funds from:	
- General Salary Increases	74,800
- Internal Reform/Workforce Adjustment	1,041,200
1991/92 Estimate	$10,813,400

Energy and Mines Expenditure Summary

for fiscal year ended March 31, 1992
with comparative figures for the previous fiscal year

Estimate 1991/92		Appropriation	Actual 1991/92	Actual 1990/91	Increase (Decrease)	Expl. No.
	23-1	Administration and Finance				
20,600		(a) Minister's Salary	17,800	20,600	(2,800)	
		(b) Executive Branch				
300,100		Salaries	249,900	296,000	(46,100)	
77,900		Other Expenditures	92,300	112,300	(20,000)	
		(c) Administrative Services				
687,800		Salaries	703,300	621,300	82,000	
529,600		Other Expenditures	522,800	656,300	(133,500)	
		(d) Marketing				
538,500		Salaries	548,700	424,800	123,900	
148,000		Other Expenditures	145,400	56,200	89,200	
2,302,800	Total 23-1		2,280,200	2,187,500	92,700	
	23-2	Energy				
		(a) Energy Administration				
150,200		Salaries	157,200	192,500	(35,300)	
34,400		Other Expenditures	28,100	76,900	(48,800)	
		(b) Energy Planning				
336,800		Salaries	273,100	301,000	(27,900)	
96,000		Other Expenditures	32,700	99,300	(66,600)	
		(c) Energy Programs (Buildings)				
436,900		Salaries	384,400	421,400	(37,000)	
168,200		Other Expenditures	128,000	1,032,100	(904,100)	1.
		(d) Petroleum				
744,100		Salaries	736,500	739,800	(3,300)	
143,000		Other Expenditures	188,700	138,800	49,900	

Estimate 1991/92	Appropriation	Actual 1991/92	Actual 1990/91	Increase (Decrease)	Expl. No.
	(e) Energy Programs (Transportation)				
148,400	Salaries	148,100	117,500	30,600	
90,900	Other Expenditures	55,500	83,000	(27,500)	
	(f) Conawapa Project Coordination				
81,500	Salaries	81,900	39,800	42,100	
188,300	Other Expenditures	141,500	49,600	91,900	
2,618,700	Total 23-2	2,355,700	3,291,700	(936,000)	
	23-3 Mineral Resources				
	(a) Mineral Development				
225,300	Salaries	225,300	194,400	30,900	
282,600	Other Expenditures	216,100	254,700	(38,600)	
	(b) Mines				
1,340,500	Salaries	1,352,200	1,345,000	7,200	
429,100	Other Expenditures	2,397,400	362,700	2,034,700	2.
	(c) Geological Services				
2,267,600	Salaries	2,255,700	2,591,500	(335,800)	3.
720,100	Other Expenditures	630,700	667,800	(37,100)	
5,265,200	Total 23-3	7,077,400	5,416,100	1,661,300	
626,700	23-4 Manitoba Energy Authority	388,400	1,177,700	(789,300)	4.
10,813,400	**TOTAL EXPENDITURES**	**12,101,700**	**12,073,000**	**28,700**	

1. Decrease is a result of elimination of funding for Home CHEC-UP Program.
2. Increase is associated with establishing a valuation allowance related to Ruttan Mine Agreement ($1,700,000); costs associated with the Flin Flon modernization project ($288,500), and general operating increase ($46,200).
3. Decrease is a result of downsizing Geological Services Branch.
4. Decrease is a result of elimination of funding for Manitoba Energy Authority.

NOTE: Due to the early printing of the Annual Report, some of the 1991/92 Expenditure figures may not be final.

Energy and Mines Revenue Summary by Source

for the year ended March 31, 1992
with comparative figures for the previous fiscal year

Actual 1990-1991	Actual 1991-1992	Increase (Decrease)	Expl. No.	Source	1991-1992 Actual	1991-1992 Estimate	Variance	Expl. No.
				Current Operating Programs:				
				Taxation:				
7,735,300	5,746,000	(1,989,300)		Oil and Gas Production Tax	5,746,000	5,383,200	362,800	
7,735,300	5,746,000	(1,989,300)	1	Total	5,746,000	5,383,200	362,800	
				Other Revenue:				
				(a) Petroleum				
187,200	111,300	(75,900)		Application Fees, Rentals, Etc.	111,300	116,600	(5,300)	
112,000	124,500	12,500		Oil & Nat. Gas Lease Bonus	124,500	150,000	(25,500)	
2,789,000	2,151,600	(637,400)		Oil & Nat. Gas Lease Royalties	2,151,600	1,820,800	330,800	
3,088,200	2,387,400	(700,800)	1	Total	2,387,400	2,087,400	300,000	
				(b) Mines				
1,838,200	1,962,300	124,100		Dispositions, Fees, Rentals, etc	1,962,300	1,677,400	284,900	
504,600	643,700	139,100		Royalties (Industrial Mineral Production)	643,700	655,000	(11,300)	
2,342,800	2,606,000	263,200		Total	2,606,000	2,332,400	273,600	

Actual 1990-1991	Actual 1991-1992	Increase (Decrease)	Expl. No.	Source	1991-1992 Actual	1991-1992 Estimate	Variance	Expl. No.
				(c) Sundry Revenue				
16,800	12,800	(4,000)		Publications, Etc.	12,800	15,000	(2,200)	
16,200	200	(16,000)		Other	200	5,000	(4,800)	
33,000	13,000	(20,000)		Total	13,000	20,000	(7,000)	
13,199,300	10,752,400	(2,446,900)		Total Revenue	10,752,400	9,823,000	929,400	

Explanatory Comments Regarding Revenue Increases(Decreases) and Variances:

1. Decrease is due to lower oil prices and reduced production.

NOTE: Due to the early printing of the Annual Report, some of the 1991/92 Revenue figures may not be final.

Energy and Mines Five Year Expenditure and Staffing Summary by Appropriation ($000)

for years ending March 31, 1988 - March 31, 1992

Main Appropriation	Actual Expenditures									
	1987/88		1988/89		1989/90		1990/91		1991/92	
	SY	$	SY	$	SY	$	SY	$	SY	$
23-1 Administration & Finance	27.19	2,015,600	38.30	1,907,400	37.45	2,262,400	43.45	2,187,500	37.16	2,280,200
23-2 Energy	49.04	14,156,400	50.36	3,905,900	44.28	3,086,400	42.23	3,291,700	41.00	2,355,700
23-3 Mineral Resources	121.28	6,669,100	107.11	6,106,000	109.34	6,004,900	94.16	5,416,100	89.25	7,077,400
23-4 Manitoba Energy Authority		1,672,100	-	1,551,700	-	1,277,500	-	1,177,700	-	388,400
Total	**197.51**	**24,513,200**	**196.25**	**13,471,000**	**192.03**	**12,631,200**	**180.32**	**12,073,000**	**167.41**	**12,101,700**

NOTE: Actual figures reflect historical data on a comparable basis in those appropriations affected by a reorganization, during the years under review.

APPENDICES

APPENDIX A

DEPARTMENTAL PUBLICATIONS

Manitoba

GEOLOGICAL REPORTS

Bedrock Geology Compilation Map 62H -Geological Services	Winnipeg - NTS 62H, 1: 250 000 with marginal notes
Bedrock Geology Compilation Map 64A -Geological Services	Split Lake - NTS 64A, 1: 250 000 with marginal notes
Geological Report GR82-3 statiform intrusion -Scoates, R.F.J.	The Fox River Sill, northeastern Manitoba - a major
Economic Geology Report ER91-1 Cu-Zn deposit, Snow Lake, Manitoba -Ferreira, K.J. and Fedikow, M.A.F.	Results of a rock geochemical study in the area of the Rod
Mineral Deposit Series Report No.12 NTS 63J/14 -Fedikow, M.A.F. and Ferreira, K.J.	Mineral deposits and occurrences in the Saw Lake area,
Mineral Deposit Series Report No.15 NTS 52M/3 -Theyer, P.	Mineral deposits and occurrences in the Aikens Lake area,
Mineral Deposit Series Report No.21 NTS 63J/12 -Ferreira, K.J. and Fedikow, M.A.F.	Mineral deposits and occurrences in the Buzz Lake area
Mineral Deposit Thematic Map Series Map 91-1 the Lynn Lake area -Fedikow, M.A.F. Ferreira, K.J. and Baldwin, D.A.	Johnson shear zone - a regional metallogenic feature in
Open File OF91-1 -Syme, E.C.	Athapapuskow Lake Field Geological Data File
Open File OF91-2 -Ferreira, K.J.	Geology of the Leo Lake area, Flin Flon, Manitoba
Open File OF91-3 dolomites of the interlake area, Manitoba: part 1 - reconnaissance -Gale, G.H.	Evaluation of magnesium resources in Phanerozoic
Open File OF91-4 Cu-Zn deposit, Lynn Lake greenstone belt, Manitoba -Nielsen, E. and Conley, G.G.	Glacial dispersion and till geochemistry around the Lar

Report of Activities (1991)

Introductory review - W.D. McRitchie

GS-1 Geological investigations in the Kisseynew - Batty Lakes area (Parts of 63N/13, 14, 63N/1-4)
-Zwanzig, H.V.

GS-2 1991: Geology of the Webb Lake area (NTS 63K/15)
-Schledewitz, D.C.P.

GS-3 Geological setting of base metal mineralization in the Anderson Lake area (NTS 63K/16SE and 63J/13SW)
-Bailes, A.H. and Galley, A.G.

GS-4 Elbow Lake project - Part A: supracrustal rocks and structural setting
-Syme, E.C.

GS-5 Elbow Lake project - Part B: Granitoid rocks
-Whalen, J.B.

GS-6 Geology of a part of the North Star Lake area (NTS 63K/15)
-Norquay, L.I., Prouse, D.E., Bieri, M., and Gale, G.H.

GS-7 The geological setting of the Wim massive sulphide type Cu deposit, Snow Lake area (NTS 63N/1);
-Fedikow, M.A.F. and Ziprick, D.

GS-8 Sediment-hosted Zn-Cu (Bur Zone) and Zn-Pb-Ag (Kobar/Ruby) massive sulphide type deposits, Snow Lake area (NTS 63J/13)
-Fedikow, M.A.F.

GS-9 Till geochemistry of the Snow Lake-File Lake area (NTS 63K/16, 63J/13)
-Gobert, G. and Nielsen, E.

GS-10 Geology of the English Brook area, southeastern Manitoba (NTS 62P/1)
-Weber, W.

GS-11 New U-Pb Zircon ages from the Rice Lake area: Evidence for 3 Ga crust
-Turek, A. and Weber, W.

GS-12 Cross Lake supracrustal investigations (Part of NTS area 63J/9)
-Corkery, M.T.

GS-13 Mineral deposit investigations in the Gods Lake area (NTS 53L/9, 53L/10, 53L/16)
-Theyer, P.

GS-14 Stratigraphic mapping (NTS 63F, 63K) and core hole program 1991
-Bezys, R.K.

GS-15 Manitoba oil and gas well information system (MOGWIS)
-Conley, G.G.

GS-16 Dimension stone investigations in southeastern Manitoba
-Bamburak, J.D. and Schmidtke, B.E.

GS-17 High-calcium limestone investigations east side of Lake Manitoba, south of the Narrows (NTS 62I and 62O)
-Bamburak, J.D.

GS-18 High-calcium limestone (NTS 62O west half)
-Gunter, R.

GS-19 Manitoba's Precambrian drill core collection program: an update and review
-Prouse, D.E.

GS-20 Manitoba mineral inventory
-Athayde, P.

GS-21 GIS and computer projects within Manitoba Energy and Mines
-Lenton, P. and Chackowsky, L.

GS-22 Karst in Manitoba's interlake: sinkholes and subcutaneous drainage
-McRitchie, W.D.

GS-23 Lithoprobe activities in Manitoba, 1991
-Weber, W.

GS-24 A vegetation geochemical survey in the vicinity of the Tanco pegmatite, Bernic Lake area, southeastern Manitoba (NTS 52L/6)
-Fedikow, M.A.F. and Dunn, C.E.

GSC-1 The Ruttan Cu-Zn deposit and depositional environment: an update
-Ames, D.E.

PRELIMINARY GEOLOGICAL MAPS

1991F-1 North Star Lake area (part of NTS 63K/15NE) 1:10 000
-Norquay, L.I., Prouse, D.E., Bieri, M. and Gale, G.H.

1991F-2 North Star Lake area (part of NTS 63K/15SE) 1:10 000
-Norquay, L.I., Prouse, D.E., Bieri, M. and Gale, G.H.
(Supersedes 1990F-2)

1991F-3 Elbow Lake (part of NTS 63K/15W) 1:20 000
-Syme, E.C. and Whalen, J.B.

1991G-1 Elk Island and Jowsey Island (part of NTS 52L/9) 1:10 000
-Theyer, P.)

1991K-1 West Cross Lake (parts of 63J/9SE and 63J/9NE) 1:20 000
-Corkery, M.T. and Cameron, H.D.M.

1991K-2 Webb Lake (NTS 63K/15) 1:20 000
-Schledewitz, D.C.P.

1991R-1 English Brook (NTS 62P/1), 1:20 000
-Weber, W. and Young, J.

1991S-1 Geology and alteration at the Wim Deposit (part of NTS 63N/1) 1:5 000
-Fedikow, M.A.F.

1991S-2 Anderson Lake (South) (parts of NTS 63K/16SE and 63J/13SW) 1:5 000
-Bailes, A.H. and Galley, A.G.

1991S-3 Anderson Lake (North) (parts of NTS 63K/16SE and 63J/13SW) 1:5 000
- Bailes, A.H. and Galley, A.G.

1991S-4 Stall Lake (South) (part of NTS 63J/13SW) 1:5 000
- Bailes, A.H. and Galley, A.G.

1991S-5 Stall Lake (North) (part of NTS 63J/13SW) 1:5 000
- Bailes, A.H. and Galley, A.G.

1991S-6	Wekusko Lake (Northeast) (part of NTS 63J/13SW) 1:20 000 - Bailes, A.H., Galley, A.G. and Hicks. R.

MISCELLANEOUS GEOLOGICAL REPORTS AND BROCHURES

Miscellaneous Publication 91-1	Provisional project and output listing
Miscellaneous Publication 91-2, Part A	Mineral Inventory Cards, Flin Flon-Snow Lake NTS 63K/9 to 63K/15 (supplement to Economic Geology Report ER79-6) -Athayde, P.
Miscellaneous Publication 91-2, Part B	Mineral Inventory Cards, Lynn Lake NTS 64C/10, 64C/11 and 64C/12 (supplement to Economic Geology Report ER79-6) -Athayde, P.
Miscellaneous Publication 91-2, Part C	Mineral Inventory Cards, Island Lake NTS 53E/9 to 53E/16 and 53F (supplement to Economic Geology Report ER79-6) -Athayde, P.
Miscellaneous Publication 91-2, Part D	Mineral Inventory Cards, Pegmatites (Li, Cs, Ta, Be, Sn, W) (supplement to Economic Geology Report ER79-6) -Athayde, P.
Miscellaneous Publication 91-3	Mineral collecting in Manitoba -Gunter, R.
Brochure	Manitoba exploration highlights March 1990 - February 1991 -Bamburak, J.D.
Brochure	Industrial minerals in Manitoba -Gunter, R.
Brochure	Manitoba dimension stone -Schmidtke, B.E.
Brochure	NATMAP program proposal for the Shield Margin Project
Brochure	Manitoba Geological Services Branch - Staff and Functions
Brochure	Selected Manitoba-based contractors and consultants serving the exploration industry
Brochure	Mining and exploration companies active in Manitoba

Abstract	Metallogeny of the Herblet Lake gneiss dome complex, Snow Lake area -Fedikow, M.A.F.
Abstract	A vegetation geochemical survey in the Dot Lake area, Agassiz metallotect, Lynn Lake: implications for mineral exploration and environmental monitoring -Fedikow, M.A.F., Ferreira, K.J. and Chackowsky, L.

AGGREGATE RESOURCES REPORTS

Aggregate Report AR89-2	Aggregate resource inventory of Reynolds -Matile, G.L.D.
Aggregate Report AR89-4	Aggregate resource inventory of Lorne -Young, R.V.
Aggregate Report AR91-1	Aggregate resource inventory of Argyle -Young, R.V.

PETROLEUM REPORTS

Petroleum Open File Report POF 12-91	Correlation cross sections along the United States-Canada international border (North Dakota-Manitoba) -Martiniuk, C.D., LeFever, J.A. and Anderson, S.B.

EXTERNAL PUBLICATIONS

Fedikow, M.A.F., Parbery, D. and Ferreira, K.J.

1991: Geochemical target selection along the Agassiz Metallotect using stepwise discriminant function analysis; Economic Geology, v. 86, p. 588-599.

Fox, J.N. and Martiniuk, C.D.

1991: Petroleum exploration and development opportunities in Manitoba; Forth Technical Conference, South Saskatchewan Section, Petroleum Society of CIM, Regina, Saskatchewan.

LeFever, J.A., Martiniuk, C.D., Dancsok, E.R.F. and Manhie, P.A.

1991: Petroleum potential of the Middle Member Bakken Formation, Williston Basin; Proceedings Volume, Sixth International Williston Basin Symposium, Regina, Saskatchewan.

Theyer, P.

1991: Petrography, chemistry and distribution of platinum and palladium in ultramafic rocks of the Bird River Sill, SE Manitoba, Canada; Mineralium Deposita, 26, p. 165-174.

MISCELLANEOUS

Mining in Manitoba '91'

'Stake A Claim' in Manitoba

1990-1991 Annual Report

Oil Activity Review '90'

Partnership Agreement on Mineral Development Canada-Manitoba

APPENDIX B

DEPARTMENTAL DIRECTORY*

Minister, Energy and Mines
333 Legislative Building
450 Broadway
Winnipeg, Manitoba R3C 0V8 945-4601

Deputy Minister, Energy and Mines
143 Legislative Building
450 Broadway
Winnipeg, Manitoba R3C 0V8 945-3130

ADMINISTRATIVE SERVICES	
Executive Director	945-4317
Computer Services	945-2172
Financial Services	945-3675
Personnel Services	945-4437
MARKETING	
Director	945-1874
Business Development	945-6868
Editorial Services	945-6551
Graphic Services	945-6588
Market Research	945-1872
Information Centre	945-4154
Library	945-6569
ENERGY	
Assistant Deputy Minister	945-1111
Energy Planning	
Director	945-2671
Energy Conservation	
Director	945-3674
Petroleum	
Director	945-6573
Administration	945-6571
Geology	945-6570
Engineering and Inspection	945-6574
Virden Office[1]	748-2208
Waskada Office[2]	673-2767
CONAWAPA COORDINATION UNIT	
Coordinator	945-0823
Communications	945-8225
MINERAL RESOURCES	
Mines	
Director	945-6505
Mining Recording	945-6528
The Pas Office[3]	623-6411
Flin Flon Office[4]	687-4222
Mining Engineering	945-6517
Russell Office[5]	773-3343
Exploration Information	945-6535
Geological Services	
Director	945-6559
Geological Surveys	945-6549
Mineral Investigations	945-6561
Flin Flon Office	687-4222
Analytical & Geochemical Laboratory[6]	945-3786
Administration	945-6558
Geophysics, Geochemistry Terrain Sciences	945-6540

BOARDS

Oil and Natural Gas Conservation Board
555 - 330 Graham Avenue
Winnipeg, Manitoba R3C 4E3 945-6577

Mining Board
555 - 330 Graham Avenue
Winnipeg, Manitoba R3C 4E3 945-6503

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